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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,196	03/04/2002	Joseph P. Day	SP01-310 WJT003-0010	4725
22928	7590	04/13/2005	EXAMINER	
CORNING INCORPORATED SP-TI-3-1 CORNING, NY 14831			NOGUEROLA, ALEXANDER STEPHAN	
			ART UNIT	PAPER NUMBER
			1753	
DATE MAILED: 04/13/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/090,196	Applicant(s) DAY ET AL.	
	Examiner ALEX NOGUEROLA	Art Unit 1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04/04/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Rejections Pending since the Office action of February 02, 2005

1. All previous rejections are withdrawn.

Allowable Subject Matter

2. The indicated allowability of claims 41-44 is withdrawn in view of the newly discovered reference to Zare et al. (US 6,875,348 B2). Rejections based on the newly cited reference follow.

Claim Rejections - 35 USC § 112

3. Claims 41-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

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Claim 41 recites the limitation "the plurality of pores" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Note that dependent claims will have the deficiencies of base and intervening claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 41, 43, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zare et al. (US 6,875,348 B2) ("Zare"), newly cited, in view of Hay (EP 0327687 A2) ("Hay").

Addressing claim 41, Zare discloses a method for analyzing a biological sample, the method comprising the steps of

placing a sol gel monolith that has pores formed therein into an electrophoresis apparatus (col. 1:20-25; col. 3:30-37; col. 10:32-47; Figures 1A-1C; col. 12:40 – col. 13:15; and col. 18:19-45);

pouring a buffer into the electrophoresis apparatus to immerse the sol gel monolith (implied since the sol gel is inside a capillary that is filled with buffer, see Figures 1A-1C; col. 14:23-53; and col. 18:19-45);

inserting the biological sample into the sol gel monolith (col. 6:16-27 and col. 18:19-45); and

applying power to the sol gel monolith such that molecules of the biological sample migrate within at least a portion of the plurality of pores formed within the sol gel monolith (col. 18:19-45).

Zare does not mention an average diameter for the pores in the range of 30-400 angstroms. However, Zare clearly teaches controlling the pore size (col. 7:1-8; col. 8:25-29; col. 9:9-37; and col. 9:64-67). Hay discloses a sol gel with an average pore size in the range 10-80 nm (= 100-800 angstroms), which can be used for electrophoresis. See the abstract and page 2, lines 1-6. Barring a contrary showing, such as unexpected results, selecting the average pore size, such as 100 angstroms as taught by Hay, will depend on the sample, and was within the skill of one with ordinary skill in the art at the time of the invention. Clearly, for example, the pores should not be smaller than the size of the analytes to be separated, but smaller than particles larger than the analytes of interest.

Addressing claim 43, it would have been obvious to one with ordinary skill in the art at the time of the invention to at least use the invention of Zare as modified by Hay to also analyze proteins because Zare discloses analyzing "charged species such as peptides." See col. 10:21-29.

Addressing claim 44, this claim appears to introduce a product-by-process limitation that is unpatentable over Zare as modified by Hay unless a material difference can be shown between the sol gel of Hay and that claimed by Applicants. Furthermore, Hay appears to disclose acid catalyzed hydrolysis. See page 3, lines 5-11.

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8. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zare et al. (US 6,875,348 B2) ("Zare") in view of Hay (EP 0327687 A2) ("Hay") as applied to claims 41, 43, and 44 above, and further in view of MacDonell ("Porous Glass Electrophoresis," *Analytical Chemistry*, vol. 33, no. 11, October 1961, pp. 154-1555) ("MacDonell") and Anazawa et al. (US 5,938,908) ("Anazawa").

Zare as modified by Hay does not disclose staining the biological sample and photographing the sol gel monolith. However, staining the sample and photographing the migrated molecules was a known detection technique at the time of the invention. See Figure 2 of MacDonell. Anazawa discloses fluorescently labeling analytes and monitoring them with a camera. See col. 8:10-20. Barring a contrary showing, the choice of electrophoresis detection technique from known detection techniques will depend on factors such as the amount of information required, such as measure of concentration or just identification; degree of resolution, such as nucleic acid base sequencing; and selectivity of available stains. Using stains and photography is a simple, inexpensive technique for recognizing separated analytes of interest compared with using a complicated optical laser detection system that requires chemical labeling of the sample components.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX NOGUEROLA whose telephone number is (571) 272-1343. The examiner can normally be reached on M-F 8:30 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NAM NGUYEN can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alex Noguerola
Primary Examiner
AU 1753
April 11, 2005